

AMENDMENTS TO THE CLAIMS

The following is a complete, marked up listing of revised claims with a status identifier in parentheses, underlined text indicating insertions, and strikethrough and/or double-bracketed text indicating deletions.

LISTING OF CLAIMS

1. (ORIGINAL) A cryogenic fluid distribution device, comprising:
a fluid flow passage for distributing cryogenic fluid to an apparatus;
an overflow passage positioned downstream of the apparatus; and
a sensor coupled to the overflow passage, the sensor having an active component for determining if fluid is present in the overflow passage.
2. (ORIGINAL) The device according to claim 1, wherein the active component is a light emitting diode.
3. (ORIGINAL) The device according to claim 1, wherein the sensor includes a body having a through passage therein defining a flow area for fluid, the sensor further including a hole intersecting with the through passage.
4. (ORIGINAL) The device according to claim 3, wherein the active component is positioned within the hole and impinges into the through passage.

5. (ORIGINAL) The device according to claim 4, wherein the active component is a light emitting diode.

6. (ORIGINAL) The device according to claim 1, further comprising a control device coupled to the sensor, the control device capable of receiving a signal from the sensor indicating a presence of liquid in the overflow passage and further capable of controlling a fluid flow within the fluid flow passage.

7. (ORIGINAL) The device according to claim 6, wherein the control device controls fluid flow within the fluid flow passage by way of a valve coupled to the fluid flow passage.

8. (ORIGINAL) The device according claim 7, wherein the control device outputs a control signal used to toggle the valve to a closed, the valve thereby preventing fluid from flowing within the fluid flow passage.

9. (ORIGINAL) The device according to claim 6, wherein the signal from the sensor is a voltage signal.

10. (ORIGINAL) A method of controlling fluid flow to a spectrometer detector element, comprising:

detecting a presence of fluid within an overflow passage using a sensor having an active sensor element associated therewith;

sending a voltage level signal produced by the active sensor element to a control device; and

receiving a signal from the control device for terminating a flow of fluid to the detector element.

11. (PREVIOUSLY PRESENTED) An apparatus for distributing cryogenic liquid to a cooled device, comprising:

a cryogenic liquid reservoir having an inlet and an outlet;

a cooled device having an inlet and an outlet;

a supply passage connecting the reservoir outlet and the device inlet for delivery of a cryogenic liquid from the reservoir to the device;

a valve coupled to the supply passage and operable for controlling a flow of the cryogenic liquid within the supply passage;

an overflow passage connected to the device outlet; and

a sensor coupled to the overflow passage, the sensor having an active component configured for determining if cryogenic liquid is present in the overflow passage.

12. (PREVIOUSLY PRESENTED) The apparatus according to claim 11, wherein:
the active component is a light emitting diode.

13. (PREVIOUSLY PRESENTED) The apparatus according to claim 11, wherein:

the sensor includes

a sensor body, the sensor body being configured to define a fluid flow path through the sensor body; and

a recess opening into the fluid flow path.

14. (PREVIOUSLY PRESENTED) The apparatus according to claim 13, wherein:
the active component is positioned within the recess.

15. (PREVIOUSLY PRESENTED) The apparatus according to claim 14, wherein:
a portion of the active component extends from the recess into the fluid flow path.

16. (PREVIOUSLY PRESENTED) The apparatus according to claim 15, wherein:
the active component is a light emitting diode.

17. (NEW) An apparatus for distributing cryogenic liquid to a cooled device, comprising:

a cryogenic liquid reservoir having an inlet and an outlet;

a cooled device having an inlet and an outlet;

a supply passage connecting the reservoir outlet and the device inlet for delivery of a cryogenic liquid from the reservoir to the device;

a valve coupled to the supply passage and operable for controlling a flow of the cryogenic liquid within the supply passage;

an overflow passage connected to the device outlet; and

a sensor coupled to the overflow passage including a sensor body configured to define a fluid flow path through the sensor and a recess opening into the fluid flow path with an active component positioned within the recess, wherein a portion of the active component extends into the fluid flow path for determining if cryogenic liquid is present in the overflow passage.

18. (NEW) The apparatus according to claim 17, wherein:

the active component is a light emitting diode.

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END OF LISTING OF CLAIMS

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